

FLEXIBLE ADAPTATION ENGINE

FOR ADAPTIVE TRANSVERSAL FILTERS

Abstract of the Disclosure

A flexible adaptation engine includes a coefficient adaptation circuit that implements multiple adaptation algorithms, and/or multiple coefficient selection algorithms, to adapt the filter coefficients of one or more digital filters, such as the transversal filters of a receiver. In one embodiment, a controller selects the filter coefficients to be adapted, and the adaptation algorithm(s) to be used to adapt the selected coefficients, based on various criteria such as convergence status data, clock recovery status signals, the current load on a processor that adapts the coefficients, and/or manual control signals. In one embodiment, the architecture supports the ability to vary the number of coefficients that are updated at a time, and to concurrently apply different adaptation algorithms to different subsets of filter coefficients. The flexible adaptation engine may be implemented in application-specific hardware and/or as a processor that executes software.